REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed October 23, 2002. Pending claims 1 – 5, 7 – 10, 12 – 16, 18 – 19, and 21 – 31 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,249,526 to *Loukianov*. Also, dependent claims 6, 11, 17, 20, and 32 stand rejected under 35 U.S.C. §103(a) as being obvious over *Loukianov* in view *Hakulinen* (WO 97/20413). Applicant traverses all the rejections and any official findings in the Office Action. Reconsideration and allowance of the present application and the presently pending claims are respectfully requested.

1.   Response to Claim Rejections Under 35 U.S.C. §102(e)

In the Office Action, independent claims 1, 9, 10, 12, 18, and 21 as well as dependent claims 2 – 5, 7 – 8, 13 – 16, 19, and 22 – 31 were rejected as being anticipated by *Loukianov*. Applicant respectfully disagrees with the interpretation of *Loukianov*.

Specifically, Applicant's independent claim 1 recites an "Internet Protocol address." *Loukianov* describes Virtual Circuit Identifiers (VCIs) as addresses. (See col. 2, lines 58 – 62.) A VCI is part of the layer 2, data link, or MAC address in Asynchronous Transfer Mode (ATM) and is not an "Internet Protocol address" as recited in independent claim 1. This point is further illustrated with respect to dependent claim 4, which depends from claim 1. Dependent claim 4 recites "correlating the assigned Internet Protocol address to a Media Access Control (MAC) address." Applicant submits that an "Internet Protocol address", as recited in independent claim 1, is different from a MAC address including the VCI of *Loukianov*. Moreover, even if the Examiner persists in viewing a layer 2 VCI address in *Loukianov* to be similar to the "Internet Protocol address" recited in independent claim 1, the VCI of *Loukianov* cannot be both the

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"Internet Protocol address" of independent claim 1 as well as the "Media Access Control (MAC) address" of dependent claim 4, which depends from claim 1. Therefore, Applicant submits that the VCI of *Loukianov* is not an "Internet Protocol address" as recited in claim 1, such that independent claim 1 is allowable over *Loukianov*. Also, dependent claims 2 – 8, which depend from claim 1, are allowable over *Loukianov* for the same reason.

With regard to independent claim 9, Applicant's independent claim 9 recites an "Internet Protocol address" as well as a "MAC address." *Loukianov* describes Virtual Circuit Identifiers (VCIs) as addresses. (See col. 2, lines 58 – 62.) A VCI is part of the layer 2, data link, or MAC address in Asynchronous Transfer Mode (ATM) and is not an "Internet Protocol address" as recited in independent claim 9. Applicant submits that an "Internet Protocol address", as recited in independent claim 9, is different from a MAC address including the VCI of *Loukianov*. Moreover, even if the Examiner persists in viewing a layer 2 VCI address in *Loukianov* to be similar to the "Internet Protocol address" recited in independent claim 9, the VCI of *Loukianov* cannot be both the "Internet Protocol address" of independent claim 9 as well as the "Media Access Control (MAC) address" of independent claim 9. Therefore, Applicant submits that the VCI of *Loukianov* is not an "Internet Protocol address" as recited in claim 9, such that independent claim 9 is allowable over *Loukianov*.

With regard to independent claim 10, claim 10 also recites an "Internet Protocol address." *Loukianov* describes Virtual Circuit Identifiers (VCIs) as addresses. (See col. 2, lines 58 – 62.) A VCI is part of the layer 2, data link, or MAC address in Asynchronous Transfer Mode (ATM) and is not an "Internet Protocol address" as recited in independent claim 10. Applicant submits that an "Internet Protocol address", as recited in independent claim 10, is different from a MAC

address including the VCI of *Loukianov*. Therefore, Applicant submits that independent claim 10 and dependent claim 11, which depends from claim 10, are allowable over *Loukianov*.

Independent claim 12 also recites an "Internet Protocol address." *Loukianov* describes Virtual Circuit Identifiers (VCIs) as addresses. (See col. 2, lines 58 – 62.) A VCI is part of the layer 2, data link, or MAC address in Asynchronous Transfer Mode (ATM) and is not an "Internet Protocol address" as recited in independent claim 12. Thus, independent claim 12 and dependent claims 13 – 17, which depend from claim 12, are allowable over *Loukianov*.

Furthermore, independent claim 18 recites an "Internet Protocol address." *Loukianov* describes Virtual Circuit Identifiers (VCIs) as addresses. (See col. 2, lines 58 – 62.) A VCI is part of the layer 2, data link, or MAC address in Asynchronous Transfer Mode (ATM) and is not an "Internet Protocol address" as recited in independent claim 18. Thus, independent claim 18 and dependent claims 19 – 20, which depend from claim 18, are allowable over *Loukianov*.

Finally, amended claim 21 recites "at least one Internet Protocol address." *Loukianov* describes Virtual Circuit Identifiers (VCIs) as addresses. (See col. 2, lines 58 – 62.) A VCI is part of the layer 2, data link, or MAC address in Asynchronous Transfer Mode (ATM) and is not an "Internet Protocol address" as recited in independent claim 21. Thus, independent claim 21 and dependent claims 22 – 32, which depend from claim 21, are allowable over *Loukianov*.

Correspondingly, Applicant submits that all independent claims 1, 9, 10, 12, 18, and 21 as well as dependent claims 2 – 8, 11, 13 – 17, 19 – 21, and 22 – 32 are allowable over *Loukianov*.

2. <u>Response to Claim Rejections Under 35 U.S.C. §103(a)</u>

Dependent claims 6, 11, 17, 20, and 32 were rejected under 35 U.S.C. §103(a) as being

unpatentable over *Loukianov* in view of *Hakulinen*. Applicant respectfully traverses these rejections.

Independent claim 1 as amended recites a "route for the Internet Protocol data [that] is adapted to carry a plurality of IP datagrams destined for a plurality of non-multicast IP addresses." *Loukianov* does not disclose teach or suggest IP addresses at all, while *Hakulinen* does not disclose, teach, or suggest a "route . . . adapted to carry a plurality of IP datagrams destined for a plurality of non-multicast IP addresses" as recited in independent claim 1. In *Hakulinen*, an MPEG PID is assigned a mapping to a single IP address by using the last 13 bits of the IP address in the MPEG PID field. Thus, in *Hakulinen* an MPEG transport stream on a specific PID is not capable of carrying "a plurality of IP datagrams destined for a plurality of non-multicast IP addresses" as recited in independent claim 1. Therefore, independent claim 1 is patentable over *Loukianov* in combination with *Hakulinen*. Also, dependent claim 6, which depends from independent claim 1, is allowable over the combination of *Loukianov* and *Hakulinen*.

Independent claim 10 as amended recites a "route for the Internet Protocol data [that] is adapted to carry a plurality of IP datagrams destined for a plurality of non-multicast IP addresses." *Loukianov* does not disclose teach or suggest IP addresses at all, while *Hakulinen* does not disclose, teach, or suggest a "route . . . adapted to carry a plurality of IP datagrams destined for a plurality of non-multicast IP addresses" as recited in independent claim 10. In *Hakulinen*, an MPEG PID is assigned a mapping to a single IP address by using the last 13 bits of the IP address in the MPEG PID field. Thus, in *Hakulinen* an MPEG transport stream on a specific PID is not capable of carrying "a plurality of IP datagrams destined for a plurality of non-multicast IP addresses" as recited in independent claim 10. Therefore, independent claim 10 is patentable over *Loukianov* in combination with *Hakulinen*. Also, dependent claim 11, which depends from independent claim

10, is allowable over the combination of *Loukianov* and *Hakulinen*.

Independent claim 12 as amended recites an "internal communications route [that] is adapted to carry a plurality of IP datagrams destined for a plurality of non-multicast IP addresses." *Loukianov* does not disclose teach or suggest IP addresses at all, while *Hakulinen* does not disclose, teach, or suggest a "route . . . adapted to carry a plurality of IP datagrams destined for a plurality of non-multicast IP addresses" as recited in independent claim 12. In *Hakulinen*, an MPEG PID is assigned a mapping to a single IP address by using the last 13 bits of the IP address in the MPEG PID field. Thus, in *Hakulinen* an MPEG transport stream on a specific PID is not capable of carrying "a plurality of IP datagrams destined for a plurality of non-multicast IP addresses" as recited in independent claim 12. Therefore, independent claim 12 is patentable over *Loukianov* in combination with *Hakulinen*. Also, dependent claim 17, which depends from independent claim 12, is allowable over the combination of *Loukianov* and *Hakulinen*.

Independent claim 18 as amended recites an "internal communications route [that] is adapted to carry a plurality of IP datagrams destined for a plurality of non-multicast IP addresses." *Loukianov* does not disclose teach or suggest IP addresses at all, while *Hakulinen* does not disclose, teach, or suggest a "route . . . adapted to carry a plurality of IP datagrams destined for a plurality of non-multicast IP addresses" as recited in independent claim 18. In *Hakulinen*, an MPEG PID is assigned a mapping to a single IP address by using the last 13 bits of the IP address in the MPEG PID field. Thus, in *Hakulinen* an MPEG transport stream on a specific PID is not capable of carrying "a plurality of IP datagrams destined for a plurality of non-multicast IP addresses" as recited in independent claim 18. Therefore, independent claim 18 is patentable over *Loukianov* in combination with *Hakulinen*. Also, dependent claim 20, which depends from independent claim 18, is allowable over the combination of *Loukianov* and *Hakulinen*.
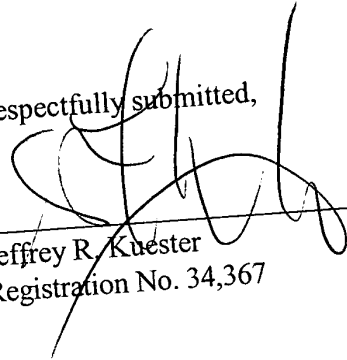
Independent claim 21 as amended recites a "route [that] is adapted to carry a plurality of IP datagrams destined for a plurality of non-multicast IP addresses." *Loukianov* does not disclose teach or suggest IP addresses at all, while *Hakulinen* does not disclose, teach, or suggest a "route . . . adapted to carry a plurality of IP datagrams destined for a plurality of non-multicast IP addresses" as recited in independent claim 21. In *Hakulinen*, an MPEG PID is assigned a mapping to a single IP address by using the last 13 bits of the IP address in the MPEG PID field. Thus, in *Hakulinen* an MPEG transport stream on a specific PID is not capable of carrying "a plurality of IP datagrams destined for a plurality of non-multicast IP addresses" as recited in independent claim 21. Therefore, independent claim 21 is patentable over *Loukianov* in combination with *Hakulinen*. Also, dependent claim 32, which depends from independent claim 18, is allowable over the combination of *Loukianov* and *Hakulinen*.

Correspondingly, Applicant submits that all independent claims 1, 9, 10, 12, 18, and 21 as well as dependent claims 2 – 8, 11, 13 – 17, 19 – 21, and 22 – 32 are allowable over *Loukianov* in combination with *Hakulinen*.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1 – 32 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

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1/23/03

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ANNOTATED VERSION OF MODIFIED CLAIMS TO SHOW CHANGES MADE

The following is a marked up version of the amended claims. Amend the following claims by adding the language that is underlined ("___") and by deleting the language that is enclosed within brackets ("[ ]"):

1.   (Twice Amended)   A method for transporting Internet Protocol data over a subscriber television system including a headend, a transmission network, and a plurality of Home Communication Terminals, with at least one Home Communications Terminal authorized for receiving the Internet Protocol data, comprising the steps of:

> establishing a subnet connection for transporting the Internet Protocol data from a server in the headend to an external network, wherein the external network is different from the transmission network;

> receiving at the headend a request for an Internet Protocol connection from the authorized Home Communications Terminal;

> assigning at the headend an Internet Protocol address to the authorized Home Communications Terminal for the duration of the Internet Protocol connection;

> establishing a route for the Internet Protocol data from the authorized Home Communications Terminal to the server and from the server to the authorized Home Communications Terminal over the transmission network, wherein at least a portion of the route for the Internet Protocol data is adapted to carry a plurality of IP datagrams destined for a plurality of non-multicast IP addresses;

transmitting from the headend to the authorized Home Communications Terminal

information regarding the route for the Internet Protocol connection;

communicating between the authorized Home Communications Terminal and the

external network via the route and the subnet connection; and

releasing the route and assigned Internet Protocol address upon termination of the

Internet Protocol connection.

9.   (Twice Amended) A method for transporting Internet Protocol data over a subscriber

television system including a headend, a transmission network, and a plurality of Home

Communications Terminals, with a least one Home Communications Terminal authorized

for receiving the Internet Protocol data, comprising the steps of:

establishing a subnet connection for transporting the Internet Protocol data from a

server in the headend to an external network, wherein the external network

is different from the transmission network;

receiving at the headend a request for an Internet Protocol connection from the

authorized Home Communications Terminal, including a Media Access

Control (MAC) address associated with the authorized Home

Communications Terminal;

assigning at the headend an Internet Protocol address to the authorized Home

Communications Terminal for the duration of the Internet Protocol

connection;

maintaining in a database in the headend, a relationship between the assigned

Internet Protocol address and the Media Access Control (MAC) address

associated with the authorized Home Communications Terminal, the

relationship being maintained for at least the duration of the Internet

Protocol connection;

establishing a downstream route for the [IP] Internet Protocol data from the server to

the authorized Home Communications Terminal over the transmission

network within a downstream bandwidth, wherein the downstream

bandwidth includes at least a portion of a television program, wherein the

downstream route for the Internet Protocol data is adapted to carry a

plurality of IP datagrams destined for a plurality of non-multicast IP

addresses;

establishing an upstream route for the Internet Protocol data from the authorized

Home Communications Terminal to the server over the transmission

network within an upstream bandwidth, wherein the upstream route uses a

protocol selected from Time Division Multiple Access, Slotted-Aloha, and

request data slot allocation;

transmitting from the headend to the authorized Home Communications Terminal

information regarding the downstream route and the upstream route for the

Internet Protocol connection;

communicating the Internet Protocol data between the authorized Home

Communications Terminal and the server via the downstream route and the

upstream route, wherein the Internet Protocol data is encapsulated into

packets;

communicating the Internet Protocol data between the server and the external

network via the subnet connection; and

releasing the assigned Internet Protocol address, the downstream route and the

upstream route upon termination of the Internet Protocol connection.

10.   (Once Amended)   A method of creating and removing Internet Protocol data

communication paths within a television system, comprising the steps of:

establishing a subnet connection between the television system and an external

network;

establishing a continuous feed session within the television system for the

transportation of the Internet Protocol data;

receiving a request for an Internet Protocol connection;

assigning an Internet Protocol address for the duration of the Internet Protocol

connection to the requester of the Internet Protocol connection;

designating a route including at least a portion of the continuous feed session for the

Internet Protocol data for the duration of the Internet Protocol connection,

wherein the route for the Internet Protocol data is adapted to carry a plurality

of IP datagrams destined for a plurality of non-multicast IP addresses;

communicating the Internet Protocol data over the established subnet and designated

route for the duration of the Internet Protocol connection; and

releasing the Internet Protocol address assignment and the route designation within

the television system upon termination of the Internet Protocol connection.

12.   (Once Amended)   An application server for establishing, using, and deleting an Internet

Protocol data communications route within a television system between the application

server and an authorized Home Communications Terminal and between the application

server and an external network, the application server comprising:

means for establishing an external communications route between an

external network and the application server located in a headend of

the television system, for communicating Internet Protocol data

between the application server and the external network using an

Internet Protocol address from the application server, and for

releasing the external communications route;

a processor for requesting the establishment of an internal communications

route between the authorized Home Communications Terminal

requesting an Internet Protocol connection and the application server

for the duration of the Internet Protocol connection, for releasing the

internal communications route upon termination of the Internet

Protocol connection, and for communicating Internet Protocol data

between the authorized Home Communications Terminal and the

application server over the internal communications route, wherein

the Internet Protocol address for communicating with the external

network is associated with the authorized Home Communications

Terminal for the duration of the Internet Protocol connection and is

released upon termination of the Internet Protocol connection,

wherein at least a portion of the internal communications route is

adapted to carry a plurality of IP datagrams destined for a plurality of

non-multicast IP addresses; and

means for encapsulating and unencapsulating the Internet Protocol data for

communication between the authorized Home Communications

Terminal and the application server.

18.   (Twice Amended) An application server for establishing and using an Internet Protocol

data communications route within a television system between the application server and

an authorized Home Communications Terminal and between the application server and

an external network, the application server comprising:

means for establishing a subnet connection to the external network;

means for receiving a request for an Internet Protocol connection from an

authorized Home Communications Terminal;

means for requesting establishment of an internal communications route for

Internet Protocol data within the television system between the

applications server and the authorized Home Communications Terminal,

wherein the internal communications route requested is based on the type

of Internet Protocol data connection required by the authorized Home

Communications Terminal, wherein at least a portion of the internal

communications route is adapted to carry a plurality of IP datagrams

destined for a plurality of non-multicast IP addresses;

means for assigning an Internet Protocol address to the authorized Home

Communications Terminal for the duration of the Internet Protocol

connection;

a memory for maintaining a database of all Internet Protocol addresses associated

with the application server and for maintaining the relationship of the

authorized Home Communications Terminal and the assigned Internet

Protocol address associated with the authorized Home Communications

Terminal at least for the duration of an Internet Protocol connection;

means for encapsulating the Internet Protocol data received from the external

network for communication to the authorized Home Communications

Terminal and unencapsulating the Internet Protocol data received from the

authorized Home Communications Terminal for communication to the

external network; and

means for releasing the internal communications route for Internet Protocol data

upon termination of the Internet Protocol connection.

21. (Twice Amended) A subscriber television system for communicating Internet Protocol

data with an external network, the system comprising:

a Home Communications Terminal capable of encapsulating and unencapsulating

the Internet Protocol data;

a headend, wherein the headend includes:

an interface to an external network for establishing a subnet connection to

the external network and for communicating the Internet Protocol

data with the external connection, the subnet connection

identifying at least one Internet Protocol address that will be used

between the external network and the headend,

means for establishing, maintaining, communicating over, and releasing a

communications route from the applications server to the Home

Communications Terminal within the subscriber television system,

wherein at least a portion of the communications route is adapted to

carry a plurality of IP datagrams destined for a plurality of non-

multicast IP addresses,

means for encapsulating and unencapsulating the Internet Protocol data for

communication with the Home Communications Terminal; and

a transmission network for connecting the Home Communications Terminal to the

headend.